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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/849,504   | 05/20/2004  | Fumio Okano          | 040229              | 5963             |
| 23850  | 7590        | 09/28/2005           | EXAMINER            |                  |
| ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP<br>1725 K STREET, NW<br>SUITE 1000<br>WASHINGTON, DC 20006 |             |                      | SUGARMAN, SCOTT J   |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2873                |                  |

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

10/849,504

Applicant(s)

OKANO ET AL.

Examiner

Scott J. Sugarman

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8, 9, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 5-7, 10 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5-20-04</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 8, 9, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Nomura et al. Nomura et al teaches a three-dimensional image optical system having an elementary image optical subsystem that includes afocal optical elements (4,5) where each afocal optical element has a first optical component (4) and a second optical component (5) both aligned in such a distance that an optical convergence area of the first optical component (4) and the optical convergence area of the second optical component (5) spatially coincide at (6) (see Figs. 1 and 7; col. 5, lines 54-57). The first optical component (4) and the second optical component (5) are both aligned in such a distance that the first optical component (4) and the second optical component (5) are aligned in a common optical axis in which optical focal points of the first optical component and the second optical component coincide. As shown in

the ray traces of Figs. 1 and 7, the focal lengths of the two optical components are different. Slit arrays (23, 25) are considered to be the gobo, or go between elements in this case.

### ***Allowable Subject Matter***

Claims 5-7, 10 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach the recited 3-D optical system including the arrangement of afocal components where at least one of the first optical component and the second optical component is a radial graded refractive index rod lens. Also, the prior art does not teach or suggest the recited numerical parameters in claims 6 and 7.

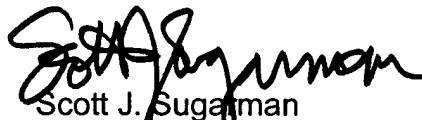
### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ezra et al and Davies et al both teach afocal arrays in 3-D optical systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott J. Sugarman whose telephone number is (571)272-2340.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Scott J. Sugarman  
Primary Examiner  
Art Unit 2873

sjs  
September 27, 2005